

Claims

1. Bearing device for mounting a high-speed rotor with a rotor bearing and a damping device, wherein the rotor bearing has a bearing ring and the damping device has a damping inner sleeve, and wherein the bearing ring is surrounded by the damping inner sleeve and can be rigidly connected to the damping inner sleeve for fixing, by means of a screw, characterised in that the bearing ring (6) has a radially peripheral internal thread (10), in which the thread of the screw (11) engages, in that the damping inner sleeve (7) has an opening (14) in that a pressure distribution element (15) is arranged on the damping inner sleeve (7) and has a hole (21) which is flush with the opening (14), and in that the opening (14) and the hole (21) are dimensioned such that they allow free passage of the screw (11).

2. Bearing device according to claim 1, characterised in that the pressure distribution element (15) is configured such that the screw (11) is held in a position released from the internal thread (10) of the bearing ring (6) by the pressure distribution element (15).

3. Bearing device according to claim 2, characterised in that the pressure distribution element (15) has two latching hooks (18) for holding the screw (11).

4. Bearing device according to any one of claims 1 to 3, characterised in that the opening (14) is configured as a slot in the axial direction, and in that the rotor bearing is axially displaceable relative to the damping inner sleeve (7) when the screw (11) is released.

5. Bearing device according to any one of claims 1 to 4, characterised in that the pressure distribution element (15) has ring segment-shaped holding arms (19), with which it can be latched onto the damping inner sleeve (7).

6. Bearing device according to any one of claims 1 to 5, characterised in that the screw (11) has a disc (16) moulded onto the screw head and projecting over the screw head for enlarging the contact face of the screw head.

7. Bearing device according to any one of claims 1 to 6, characterised in that the pressure distribution element (15) has a flat support (20) for the screw head.

8. Bearing device according to any one of claims 1 to 7, characterised in that the screw (11) has a regreasing hole (13).

9. Bearing device according to any one of claims 1 to 8, characterised in that the pressure distribution element (15) consists of an elastic material.

10. Bearing device according to claim 9, characterised in that the pressure distribution element (15) consists of plastics material.

11. Bearing device according to either of claims 9 or 10, characterised in that the pressure distribution element (15) is produced as an injection moulding.